Clarke County, Virginia
Standards and Procedures for the Siting and Installaiton of Subsurface Septic Systems
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Health Ordinance
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ADOPTED ORDINANCE

STANDARDS AND PROCEDURES FOR THE
SITING AND INSTALLATION OF SUBSURFACE SEPTIC SYSTEMS

General
The intent of this ordinance is to minimize the potential for ground-water contamination resulting from improper siting and construction of subsurface septic systems in Clarke County. To that end, standards and procedures for soil evaluation, system siting, and system design and installation are addressed herein, allowed by conditions for obtaining a variance to the provisions of this ordinance and the penalties associated with the violation of this ordinance. Definitions of technical terms contained herein are addressed in the final section.

This ordinance is based on the Virginia Department of Health's Sewage Handling and Disposal Regulations of 1982, as amended, but extends some of the requirements of that document in order to meet the special needs of Clarke County's fragile hydrogeology, as allowed by the Code of Virginia.

A. Soil Evaluation

Minimal soil evaluation criteria for suitability of subsurface soil absorption (septic) systems are established in the Sewage Handling and Disposal Regulations, Virginia Department of Health, 1982, as amended. Soil characteristics shall be estimated by field testing by a professional soil scientist or by a Lord Fairfax Health District sanitarian. The Soil Survey of Clarke County, Virginia, 1982 provides a general guide for drainfield suitability, but is not definitive for individual septic drainfield sites

B. System Siting

1. Site and Structure Identification. The. site and structure identification requirements for subsurface septic system installation are prescribed in the Sewage Handling and Disposal Regulations, Virginia Department of Health, 1982, as amended

2. Soil Restrictions. Subsurface septic systems shall be prohibited or restricted in soils with the following characteristics:

a. Unsatisfactory percolation rate. Subsurface septic systems shall not be installed in soil horizons having an estimated or measured percolation rate greater than 120 minutes per inch. In general, this applies to soil horizons classified as "poorly drained," "somewhat poorly drained," "subject to flooding," and "'moderately well drained with slow permeability" in the Soil Survey of Clarke County, Virginia, 1982. The minimum separation distance for trench bottoms above any soil layer having an unsatisfactory percolation rate is 20 inches.

b. Bedrock, rock outcrops, and impervious strata. Subsurface septic systems shall be a minimum distance, vertically and horizontally, of 2 feet from any bedrock, or any soil horizon of at least 75% (by volume) rock fragment content, and 10 feet horizontally from surface rock outcrops. In soils weathered from limestone parent materials, the vertical and horizontal distance shall be measured from the weathering rind surrounding the rock. The weathered rind shall be determined visually by difference in soil color and texture.

c. Fragipans. Subsurface septic systems shall not be installed in any soils where there are fragipans, such as Monongahela and Nicholson, unless a satisfactory percolation rate is verified by tests according to the Sewage Handling and Disposal Regulations, Virginia Department of Health, 1982, as amended. If the percolation rate is satisfactory, the septic system, if placed above a fragipan, must meet a minimum separation requirement of 20 inches above the fragipan

d. Coarse fragments. Subsurface drainfield systems shall not be installed in soil horizons containing more than 50 percent (by volume) coarse fragments, including horizons within the two (2) feet below the bottom of the proposed drainfield.

e. High shrink-swell soils. Subsurface septic systems shall not be installed in soils having a high shrink-swell potential, as defined in the Soil Survey of Clarke County, Virginia, 1982. In order to determine whether the soil has a high shrink-swell potential, "presoaking" of suspected high shrink-swell soils shall mean that for two consecutive work days (8-hours days) a 12-inch column shall be maintained above the desired percolation depth. This 12-inch column shall be maintained by a good-faith effort, but shall as a minimum be observed, and adjusted as necessary, a minimum of four reasonably-spaced times during the work day. The last observation/adjustment shall be at the conclusion of the 8-hour work day.

3. Site restrictions. Minimum distances between subsurface septic systems and site features are prescribed in the Sewage



Handling and Disposal Regulations, Virginia Department of Health, 1982, as amended. Known

areas of extensive open bedrock fractures shall be avoided. Subsurface septic systems shall be prohibited or restricted on sites with the following characteristics

a. Slope. Subsurface septic systems shall not be placed on slopes greater than 25 percent.

b. Free-flowing streams, natural lakes, or impounded waters. The minimum distance shall be 100 feet between a drainfield and a surface water body

c. Intermittent streams or drainageways. A 50-foot setback surface distance shall be required measured from the lowest point in the stream channel or drainageway perpendicular to the drainfield

d. Wells, sinkholes, and cave entrances. The minimum distance shall be 100 feet measured, in the case of sinkholes and cave entrances, from the discernible edge.

e. Springs. The minimum distance between a drainfield and a spring shall be 500 feet when the drainfield is at an elevation above or equal to the spring and 200 feet when the drainfield is at an elevation less than the spring.

f. Free-standing water. Subsurface septic systems shall not be placed on any site where water intermittently forms ponds

g. Easements. Easements for offsite installation of subsurface septic systems are prohibited, except for residence constructed prior to December 15, 1987.

C. Design and Installation

Note: Permits issued prior to December 15, 1987 shall not be subject to provisions of this Section before July 1, 1992.

1. Low-pressure or enhanced-flow distribution systems. These systems, which provide unsaturated soil conditions within the drainfield and longer life for slow-rate soils and which may require less area than conventional gravity-feed systems, shall be required for subsurface septic systems in the following soils:

a. Soils that have an estimated or measured percolation rate of 16 or less minutes per inch; and

b. Soils that have an estimated or measured percolation rate of 91 to 120 minutes per inch and the drainfield design requires a minimum of 3100 square feet.


2. Increased drainfield size. The minimum square footage, or depth, of subsurface

drainfield Systems in soil horizons containing 15 to 50 percent (by volume) coarse fragments such as gravel, slate, cobbles, or stones shall be increased by an amount to provide an adequate soil absorption area for septic effluent.

3. Explosives or pneumatic hammers. The use of explosives or pneumatic hammers (other than hand-held pneumatic hammers) shall not be permitted for the excavation associated with septic tanks or drainfields, or within fifty feet (50') of any drainfield (except blasting may be permitted for installation of one-piece septic tanks fitted with rubber boots). See Section D of this Ordinance {Penalties) regarding violation of this provision

D. Penalties

Any person violating Section C-3 of this Ordinance shall be guilty of a misdemeanor and, upon conviction thereof, shall be fined not less than twenty-five dollars ($25.00) nor more than one thousand dollars ($1,000.00) or imprisonment not to exceed thirty (30) days, or both.

E. Variance Provisions

The Lord Fairfax Health District Sanitation Manager and District Health Director shall have the' authority to grant variances to the provisions of this Ordinance for on-site wastewater treatment systems for occupied residences and structures which existed as of December 15, 1987. Variances should be consistent with the intent of this Ordinance, and the Clarke County Board of Supervisors shall receive written notification of any proposed variance at least fifteen (15) working days prior to the granting of the variance.

F. Definitions

Definitions of terms contained in this ordinance shall be those given in the Sewage Handling and Disposal Regulations, Virginia Department of Health, 1982, as amended, except as noted herein. The following definitions shall apply:

Professional Soil Scientist. An individual who satisfies one of the following criteria:
a. Hold a bachelor's degree from an accredited institution of high education in a soils curriculum which has been approved by the Virginia Board of Professional Soil Scientists and has at least four years of experience in soil evaluation; or
b. Hold a bachelor's degree in one of the natural sciences and has at least five years of experience in soil evaluation; or


c. Has a record of at least eight years of experience in soil evaluation; or
d. Has at least four years of experience in soil science research or as a teacher of soils curriculum in an accredited institution of higher education which offers an approved four-year program in soils and least two years of soil evaluation experience.

The Code of Virginia prescribes the process by which a person may be certified as a Professional Soil Scientist.

Subsurface Septic System. A subsurface septic system includes tanks, pumps, drainfields, filtration equipment, pipes, and any other materials and equipment placed below the surface of the ground to receive, transport, treat, and dispose of sewage. The term is use interchangeably with "subsurface soil absorption system."